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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,856	01/17/2006	Yasushi Inagaki	283026US90PCT	5109

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EXAMINER	
PATEL, ISHWARBHAI B	

ART UNIT	PAPER NUMBER
2841	

NOTIFICATION DATE	DELIVERY MODE
08/19/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/564,856	INAGAKI ET AL.	
	Examiner	Art Unit	
	Ishwar (I. B.) Patel	2841	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 May 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) *5-18* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4 and 19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 January 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to amendment filed on May 2, 2008.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Strandberg (US Patent No. 6,323,435).

Regarding claim 1, Strandberg in figure 1-3 discloses a multilayer printed wiring board comprising: a core substrate (12) ; a first conductive layer (14) formed on the core substrate; an interlayer insulation layer (30) formed on the first conductive layer and the core substrate and a second conductive layer (36) formed on the interlayer insulation layer, wherein the first conductive layer on the core substrate has a thickness which is larger than a thickness of the second conductive layer on the interlayer insulation layer (see figure, though the figures may not be to the scale, the respective element considered proportional), and the first conductive layer on the core substrate has a side face which is tapered (see figure 2, shown in more detail) such that an angle, θ, formed by a straight line connecting the top end and bottom end of the side face of the conductive layer and a horizontal face of the core substrate satisfies 2.8<tan θ 55

(measuring the dimension in figure 3, the value of tan θ is more than 3:00, which meets the limitation, though the figures may not be to the scale, the respective element considered proportional).

Regarding claim 2, Strandberg further discloses that the thickness of the first conductive layer on the core substrate is α1, the thickness of the second conductive layer on the interlayer insulation layer is α 2, and the α1 satisfies relation of α 2< α1<40 α2 (thickness measured in figure is about 6.5 mm and 3.5mm, which meets the limitation).

Regarding claim 3, Strandberg further discloses the thickness of the first conductive layer on the core substrate is α1, the thickness of the second conductive layer on the interlayer insulation layer is α 2, and the α 1 satisfy a relation of 1.2 α 2 < α 1<40 α 2 (the thickness as shown above in claim 2, meets the limitation).

Regarding claim 4, Strandberg further discloses the first conductive layer on the core substrate is a conductive layer for power source or a conductive layer for grounding (Strandberg disclose the conductive layer, using the layer as power or ground does not add any structural limitation, therefore Strandberg meets the limitation).

Regarding claim 19, Strandberg further discloses a via hole (34) formed in the interlayer insulation layer and electrically connecting the first conductive layer on the core substrate and the second conductive layer on the interlayer insulation layer.

Response to Arguments

4. Applicant's arguments filed May 2, 2008 have been fully considered but they are not persuasive.

Applicant, starting on page 9 of response, argues that the prior art of Strandberg, in two different figures, figure 3 and 6, have traces with different thickness, however, they are not represented differently.

This is not found persuasive.

Though, the figures may not be drawn to scales and two figures may not be compared for the relative dimension. It is reasonable to consider the relative dimension of the important elements of the invention will be proportionately shown with the respective original dimensions ***in the same figure***, in the present case, the thickness of the traces on the core substrate and that on the interlayer insulation layer. The prior art of Strandberg, the important dimensions are the thickness of the fine lines on the build up interlayer insulating layer compare to that on the core substrate. Therefore, it would have been reasonable for a person of ordinary skill in the art at the time of applicant's invention to consider the thickness of the trace on the core substrate and that on the interlayer insulation layers are shown proportionately in a same figure. Therefore, figures 3 and 6 of the prior art of Strandberg may not have the same scale; still both the

figures show the relative dimension of the traces for different embodiments. Therefore, Strandberg meets the limitation.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Westbrook (US Patent No. 6,203,967) in figure 3A discloses a circuit board with first conductive layer (6) on a core substrate and second conductive layer (4) on the interlayer insulation layer and further recites thickness of the first conductive layer up to 40 μm and that of the second conductive layer is about 5 μm (column 8, line 1-7).

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ishwar (I. B.) Patel whose telephone number is (571) 272 1933. The examiner can normally be reached on M-F (8:30 - 5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (571) 272 1984. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ibp
August 11, 2008

/Ishwar (I. B.) Patel/
Primary Examiner, Art Unit 2841